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AGRICULTURAL MEMORANDUM NO 472

Severity of Hay Fever Days

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Previous memoranda (eg Ag Mem 379) judged the severity of a season in terms of the sum of daily pollen counts. A more helpful rating might be the number of days when the count exceeded 50 and the number when it exceeded 100.

These totals were compared with T_4 (April and May temperatures) and the starting date (first day in June with a count of 50):

Year	T_4 (1)	Start (2)	Days over 50 (3)	Days over 100 (4)	Sum of (3) & (4) (5)
1964	22.4	5	38	24	62
1961	21.4	4	34	22	56
1965	20.1	11	25	15	40
1970	19.9	8	22	7	29
1969	19.6	8	30	11	41
1963	19.4	10	22	10	32
1966	19.3	7	30	18	48
1967	18.7	12	24	10	34
1962	18.4	10	27	13	40
1968	18.3	9	18	8	26

The correlations are as follows:

(1) & (2)	0.72
(1) & (3)	0.78
(1) & (5)	0.86
(2) & (3)	0.71
(2) & (5)	0.73

If column (5) is the adopted rating for seasonal severity, and if we specify

Over	50	as Severe
40-50		as Moderate
Below	40	as Light

then either T_4 or day of actual start can be used as a guide, with criteria

$T_4 >$	21°C	Severe	Start before 6th	Severe
19.5 -	20.9	Moderate	7-9th	Moderate
<	19.5	Light	after 9th	Light

we find

	Rating		"T_4" Forecast	"Start" Forecast
1964	62	Severe	Severe	Severe
1961	56		Severe	Severe
1966	48	Moderate	Light	Moderate
1969	41		Moderate	Moderate
1962	40		Light	Light
1965	40		Moderate	Light
1967	34	Light	Light	Light
1963	32		Light	Light
1970	29		Moderate	Moderate
1968	26		Light	Moderate
		Years correct	7	6

Considering that the number of days with high pollen counts depends partly on the weather yet to come, the degree of accuracy is acceptable. In particular it is significant that the later the start of hay fever symptoms, then the less is likely to be the severity of the season as a whole.

Any comments or suggestions on this paper should be referred to the author.

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